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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,810	09/12/2003	Steven Don Arnold	H0005335	7386

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EXAMINER

TRIEU, THAI BA

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 07/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/661,810	ARNOLD ET AL.	
	Examiner	Art Unit	
	Thai-Ba Trieu	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-17 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 18 is/are rejected.
- 7) ☒ Claim(s) 8,9 and 19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/22/2003</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

The listing of references of **US Patent Number 6,269,642** in the specification is not a proper information disclosure statement (See Page 11, line 15). 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference character(s) mentioned in the description: "**springs 156**" (See Page 16, line 10); and "**a slot 170**" (See Page 16, line 27, and Page 17, line 5). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: **"164"** (See Figure 13). Corrected drawing sheets, or amendment to the specification to add the reference character(s) in the description, are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

- On Page 12, line 4, **"a turbocharger housing 66"** should be replaced by **-- turbine housing 66 --** (for consistency of the specification and claims).
- On Page 13, line 13, **"the annular member 112"** should be replaced by **-- the annular member 100 --** (for correcting typo error).
- On Page 16, line 10, **"biasing mechanism 136"** should be replaced by **-- biasing mechanism 154--** (for correcting typo error).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Fledersbacher et al. (Patent Number 6,378,307 B1).

Regarding claims 1-2 and 4, Fledersbacher discloses a turbocharger assembly comprising:

a turbine housing (3) (See Figure 3);

a turbine wheel rotatably disposed within the turbine housing (3) and attached to a shaft (7) (See Figure 3);

a center housing (not shown) connected to the turbine housing (3) and carrying the shaft (7) (See Figure 3);

a compressor housing (5, 28) attached to the center housing (Not shown);

a compressor rotatably disposed within the compressor housing (5, 28) and attached to the shaft (7), the compressor comprising two impellers in back-to-back orientation with one another (Clearly seen in Figure 3), the compressor housing including at least one air inlet (15, 11) for directing air into the compressor housing (5, 28) and to the compressor impellers; and

means (14) for controlling the flow of air within the compressor housing (See Figure 3, Column 5, line 45-57);

wherein the compressor housing includes two separate air inlets (15, 11) that are in air flow communication with respective compressor impellers (See Figure 3);

wherein the air inlets are oriented to receive air radially with respect to the compressor (See Figure 3).

Regarding claim 18, Fledersbacher discloses a method for providing pressurized air for combustion by an internal combustion engine, the method comprising:

directing exhaust gas (via line 4) from the internal combustion engine to a turbine housing (3) of a turbocharger to rotate a turbine wheel rotatably disposed therein, wherein the rotation of the turbine wheel causes a compressor to also rotate within a compressor housing;

directing air (via lines 15, 11) into the compressor housing (5, 28) and to the compressor, the compressor comprising two back-to-back oriented impellers to produce pressurized air; and

controlling the flow (by 14) of pressurized air exiting the compressor housing from at least one of the impellers depending on the operating conditions of the internal combustion engine (See Figure 3, Column 5, lines 45-57).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being obvious over Fledersbacher et al. (Patent Number 6,378,307 B1), in view of Anderson (Patent Number 3,208,213).

Fledersbacher discloses the invention as recited above; however, fails to disclose the air inlets being oriented to receive air axially with respect to the compressor.

Anderson teaches that it is conventional in the turbocharged internal combustion engine art, to utilize the air inlets (14, 18) being oriented to receive air axially with respect to the compressor (See Figure).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the air inlets being oriented to receive air axially with respect to the compressor, as taught by Anderson, since the use thereof would have controlled the air flowing into the compressor.

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being obvious over Fledersbacher et al. (Patent Number 6,378,307 B1), in view of Lawaczeck (Patent Number 1,213,889).

Fledersbacher discloses the invention as recited above; however, fails to disclose the compressor housing comprising a single common air inlet that is in air flow communication with respective compressor impellers; and the air inlet being oriented to receive air axially with respect to the compressor.

Lawaczeck teaches that it is conventional in the turbocharged internal combustion engine art, to utilize the compressor housing comprising a single common air inlet (via c) that is in air flow communication with respective compressor impellers (a1, a2); and the air inlet being oriented to receive air axially with respect to the compressor (See Figures 1 and 3-4).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the compressor housing comprising a single common air inlet that is in air flow communication with respective compressor impellers; and the air inlet being oriented to receive air axially with respect to the compressor, as taught by Lawaczeck, to improve the performance and efficiency of the Fledersbacher device.

Allowable Subject Matter

Claims **10-17** are allowed.

Claims **8-9 and 19** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: The prior art fails to disclose or render obvious the claimed combination of a turbocharger assembly including:

" Regarding claims 10 and 17:

a compressors comprising two impellers in back-to-back orientation with one another, and an annular member moveably disposed within a wall cavity of the compressor housing downstream of the compressor for controlling the flow of pressurized air from one of the compressor impellers when placed in an actuated position.

Conclusion

The IDS (PTO-1449) filed on December 22, 2003 has been considered. An initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Maier (US Patent Number 5,927,943) discloses an inlet casing for a turbine.
- Bates et al. (US Patent Number 5,584,174) disclose a power turbine flywheel assembly for a dual shaft turbine engine.
- Mowill (US Patent Number 4,530,639) discloses a dual entry centrifugal compressor.
- Bachl (US Patent Number 3,726,605) discloses a fluid flow machine.
- Dreensen et al. (US Patent Number 3,150,650) disclose a variable area diffuser for compressor.

- Garve et al. (US Patent Number 2,189,106) disclose an internal combustion engine.
- Whittle (US Patent Number 2,438,426) discloses a centrifugal compressor.
- Frame (US Patent Number 1,309,282) discloses a multistage centrifugal fan or pump.
- Loewenstein (US Patent Number 1,287,367) discloses a centrifugal compressor.
- Büchi (US Patent Number 1,158,978) discloses a turbine pump, turbine blower, and propeller.
- Sudmanns (Patent Number DE 40 03 940 C1) discloses a radial flow compressor with an inlet flow control having an inlet passage housing with three differently shaped passages between suction line and impeller.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (703) 308-6450. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (703) 308-2623. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
July 19, 2004



Thai-Ba Trieu
Patent Examiner
Art Unit 3748